

Fig. 1

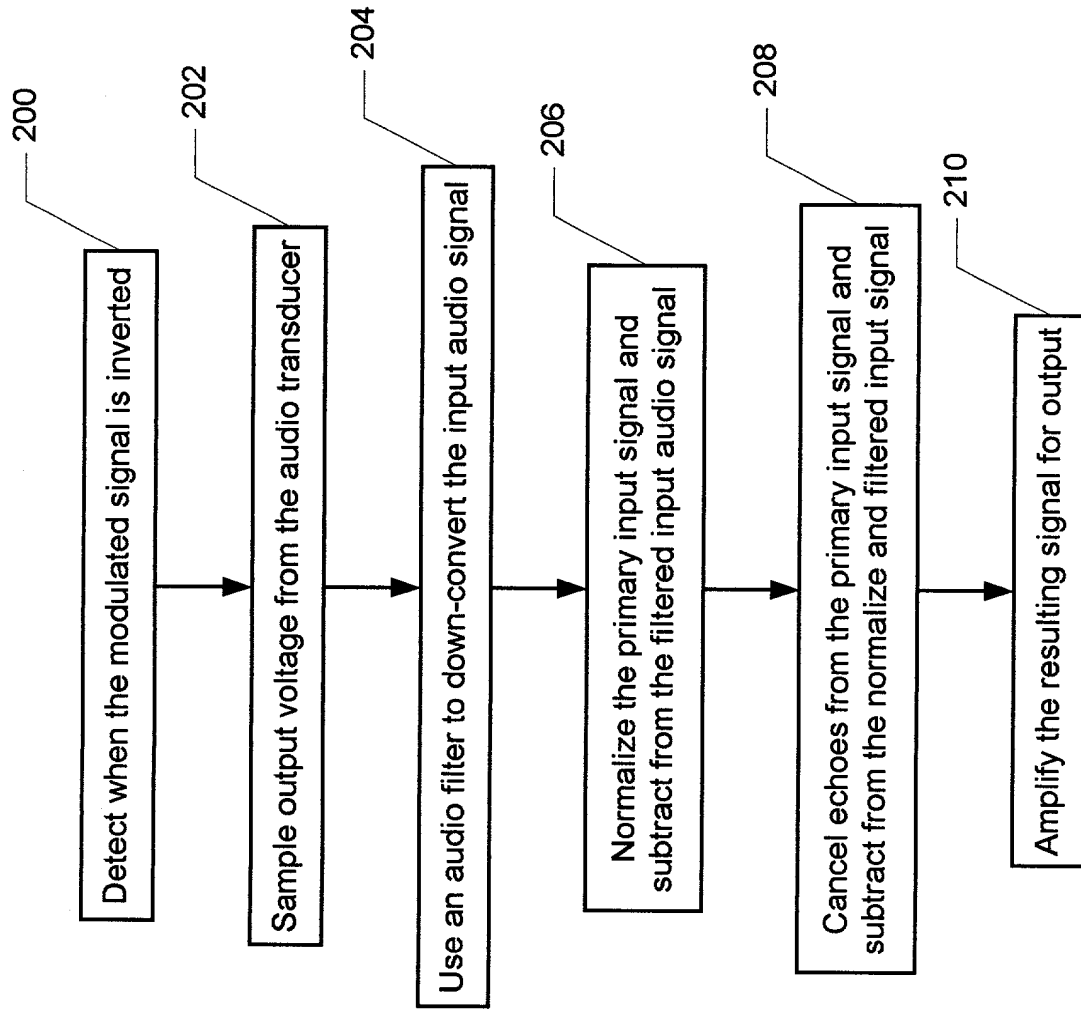


Fig. 2

300

# Example: Digital Modulation Timing

"Speaker/ microphone" Sampling Time  
One Sample Output Period -> 1 to X microseconds

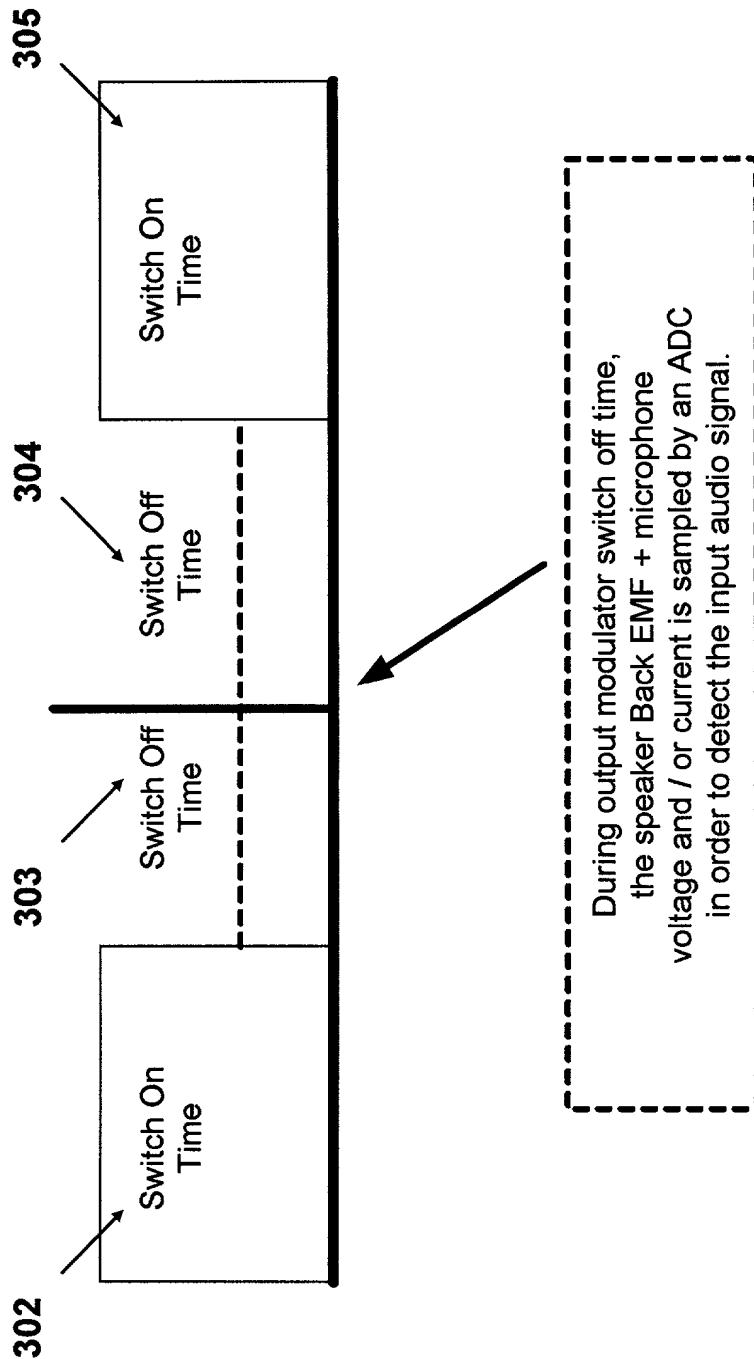


Fig. 3

FIG. 4 is a block diagram of a system 400 for generating a microphone signal. The system 400 includes a Telephone VOIP / Intercom System Interface 102, an Audio / PC Interface 402, and an Audio / PC Interface 404. The Telephone VOIP / Intercom System Interface 102 is connected to the Audio / PC Interface 402 and the Audio / PC Interface 404. The Audio / PC Interface 404 is connected to a Primary Input Signal 120. The Primary Input Signal 120 is connected to a Class D, G or Similar Digital Pulse Modulating Amplifier 103. The Class D, G or Similar Digital Pulse Modulating Amplifier 103 is connected to a Digitally Modulated Signal 122. The Digitally Modulated Signal 122 is connected to a Power Switch 117. The Power Switch 117 is connected to a Transducer / Speaker 106. The Transducer / Speaker 106 is connected to an Audio Out / In 124. The Audio Out / In 124 is connected to an Output EMF(V) = BL \* dx/dt 124. The Primary Input Signal 120 is also connected to a Microphone Generation Circuit 101. The Microphone Generation Circuit 101 includes an Echo Canceling Filter 104, a Receive Signal Normalized 105, an Input Signal 126, an Audio Filter 109, an A/D Converter 108, an Amplifier 107, and a Sample Control 107. The Echo Canceling Filter 104 is connected to the Input Signal 126. The Receive Signal Normalized 105 is connected to the Input Signal 126. The Input Signal 126 is connected to the Audio Filter 109. The Audio Filter 109 is connected to the A/D Converter 108. The A/D Converter 108 is connected to the Amplifier 107. The Amplifier 107 is connected to the Sample Control 107. The Sample Control 107 is connected to the Digitally Modulated Signal 122. The Microphone Generation Circuit 101 is also connected to an Amplifier 113, an Echo Canceling Filter 111, and a Summing Junction 127. The Amplifier 113 is connected to the Echo Canceling Filter 111. The Echo Canceling Filter 111 is connected to the Summing Junction 127. The Summing Junction 127 is connected to the Input Signal 126. The Input Signal 126 is connected to the Summing Junction 127. The Summing Junction 127 is connected to the Audio Filter 109. The Audio Filter 109 is connected to the A/D Converter 108. The A/D Converter 108 is connected to the Amplifier 107. The Amplifier 107 is connected to the Sample Control 107. The Sample Control 107 is connected to the Digitally Modulated Signal 122.

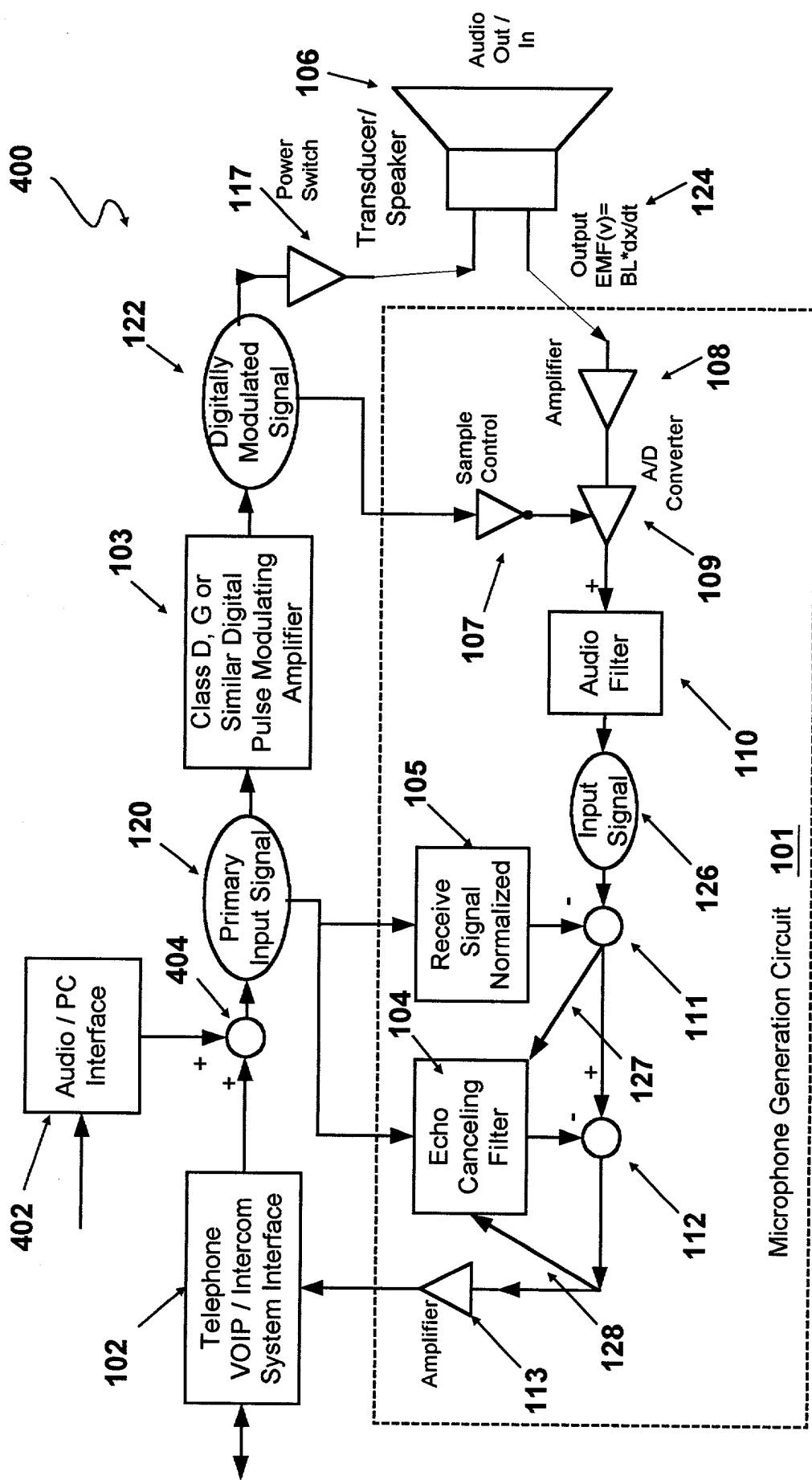


Fig. 4